

AMENDMENTS TO THE CLAIMS

1 – 3 (canceled)

4. (currently amended) A sorbent composition in accordance with claim 3 suitable for removing sulfur from a hydrocarbon-containing fluid, said sorbent composition comprising:

a promoter; and

a steam-treated support,

wherein at least 10 weight percent of said promoter is in a zero-valence state,

wherein said sorbent composition is a particulate in the form of a microsphere having a mean particle size in the range of from about 1 micrometer to about 500 micrometers,

wherein said steam-treated support comprises zinc oxide,

wherein said promoter comprises a metal selected from the group consisting of nickel, cobalt, iron, manganese, copper, zinc, molybdenum, tungsten, silver, tin, vanadium, antimony, and combinations thereof,

wherein substantially all of said promoter has a valence of less than 2.

5 – 7 (canceled)

8. (currently amended) A sorbent composition in accordance with claim 7 suitable for removing sulfur from a hydrocarbon-containing fluid, said sorbent composition comprising:

a promoter; and

a steam-treated support,

wherein said sorbent composition is a particulate in the form of a microsphere having a mean particle size in the range of from about 1 micrometer to about 500 micrometers,

wherein said steam-treated support comprises zinc oxide, alumina, and silica,

wherein said promoter comprises nickel,

wherein said zinc oxide is present in the range of from about 10 to about 90 weight percent, said silica is present in an amount in the range of from about 5 to about 85 weight percent, said alumina is present in an amount in the range of from about 1 to about 30 weight percent, and said promoter is present in an amount in the range of from about 0.5 to about 50 weight percent

wherein substantially all of said promoter has a valence of zero.

9 – 15 (canceled)

16. (currently amended) A sorbent composition in accordance with claim 13 suitable for removing sulfur from a hydrocarbon-containing fluid, said sorbent composition comprising:

a promoter; and

a steam-treated support,

wherein said sorbent composition is a particulate in the form of a microsphere having a mean particle size in the range of from about 1 micrometer to about 500 micrometers,

wherein said steam-treated support comprises zinc oxide, alumina, silica, zinc silicate, and zinc aluminate,

wherein said steam-treated support has been steam-treated at a temperature in the range of from about 400°C to about 1500°C and for a period in the range of from about 0.5 hours to about 24 hours,

wherein said promoter comprises nickel

wherein substantially all of said promoter has a valence of zero.

17. (original) A sorbent composition in accordance with claim 16 wherein said sorbent composition has a 5-hour attrition percentage value of less than 30 percent.

18 – 55 (canceled)